

## First Electronic Health Records from the Oregon Health & Science University (OHSU) Hospital for January 2011-March 2021 Reveal that Positives for Opiates and Amphetamines are near or at the Top of their 10-year Ranges

### Background

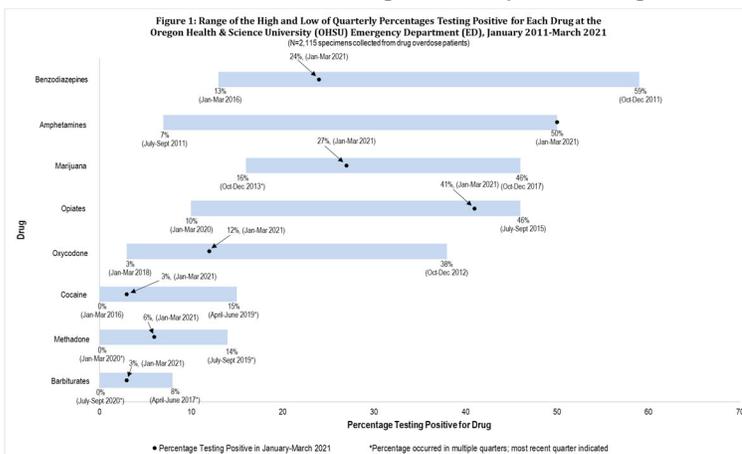
The Emergency Department Drug Surveillance (EDDS) system is designed to provide the nation with a new tool to access nearly real-time information about the trends in each participating hospital's urine drug test results from drug overdose patients seen at its emergency department (ED) and to discover emerging drugs that may not be included in the hospital's routine limited urinalysis screens. This information is vital to ensuring that hospitals and localities are better prepared to provide appropriate and equitable treatment. EDDS achieves these goals by obtaining quarterly de-identified exports of test results from each participating hospital's electronic health records (EHRs) and by offering each hospital the opportunity to submit annually a sample of 150 de-identified urine specimens that EDDS has retested for almost 500 drugs. The EDDS model was pilot tested in seven Maryland hospitals (2018-2020) and is now being launched in hospitals in other states. An *EDDS Bulletin* will be published to announce the release of each hospital's detailed findings: <https://cesar.umd.edu/landing/EDDS>. This *Bulletin* focuses on new EHR findings for the Oregon Health and Science University Hospital (OHSU).

### Methods

OHSU, located in Portland, OR, submitted drug test results for 2,115 specimens tested between January 2011 and March 2021 that met study inclusion criteria. The hospital routinely screens specimens for 8 drugs, including amphetamines, barbiturates, benzodiazepines, cocaine, marijuana, methadone, opiates, and oxycodone. De-identified EHRs were obtained for patients 18 years or older presenting to the ED with a complaint of "overdose" and/or any ICD 10-CM T36-T50 initial encounter diagnosis code of overdose with accidental (unintentional), intentional self-harm, or undetermined intent that had a drug urinalysis conducted with valid drug test results available. A future *Bulletin* will highlight the results of expanded urinalyses of 150 specimens for approximately 500 substances conducted by EDDS. See the EDDS website for more information on the project methods.

### Results<sup>1</sup>

Figure 1 shows that opiate positives peaked at 46% in July-September 2015 and reached their lowest point (10%) in January-March 2020. The percentage of opiates has been increasing since that time and 41% of specimens were reported positive in January-March 2021, approaching its highest level in this time period. Opiates and amphetamines are near/at the top of their 10-year ranges while cocaine is near its lowest level. Separate analyses of all specimens positive for each drug showed that patients testing positive for



opioids had the highest median ages: oxycodone (median age=46), methadone (44), and opiates (40). Patients positive for cocaine (36), amphetamines (33) or marijuana (31) were the youngest. Specimens positive for methadone were most likely (90%) to contain other drugs, while marijuana positive specimens were least likely (66%) to contain other drugs. Opiates were also detected in specimens testing positive for cocaine (37%), benzodiazepines (36%) and amphetamines (41%). Sixty percent of oxycodone-positive specimens also tested positive for other opiates, a result that may be caused by some cross-reactivity between the screens for these drugs.

### Implications

These first EDDS results show that amphetamine positives reached a 10-year high in the most recent quarter (January-

March 2021) and opiates, while less prevalent, are not far from their peak. Patients positive for amphetamines tended to be younger, while opiate positive patients were older. EDDS analyses have confirmed the pattern of poly-substance positives found in our prior research. The patients seeking care for a drug overdose in this study were seldom found to be exposed to a single drug, with the possible exception of marijuana. The detection window for marijuana depends on a person's frequency of use and the sensitivity of the test being used. It is impossible to determine whether patients testing positive for marijuana only had a marijuana related adverse event. Additional research is needed to better understand the role of marijuana, if any, in ED visits.

<sup>1</sup>All tables and figures are available online at: <https://cesar.umd.edu/landingtopic/edds-hospitals-data>

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